SIEMENS

Installation and Administration Manual

HiPath 3000, HiPath 5000
Version 4.0
TAPI 170 V2.0

May 2003

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May 2003

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Siemens Information and Communication Networks, Inc.
1700 Technology Drive
San Jose, CA 95110
(408) 492-2000
1 (800) 765-6123
Fax: (408) 492-3430

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HiPath 3000/5000 V4.0
HiPath TAPI 170 V2.0

Installation and Administration manual

Content

1 Introduction 1-2
1.1 General 1-2
1.2 Solutions and components 1-3
1.3 Licensing/copy protection 1-6
1.4 Data synchronization 1-7
1.5 Features 1-8
1.6 Hardware for system connection 1-9
1.7 Requirements 1-10
1.8 Installation medium and sequence 1-12

2 Installing Components 2-1
2.1 General 2-1
2.2 Starting installation 2-2
2.3 Installing the CMD component 2-4
2.4 Installing the CSP component 2-5
2.5 Installing the TSP component 2-6
2.6 Installing the CCMC component 2-7
2.7 Installing the dongle driver 2-8
2.8 Ending installation 2-8

3 Configuring Components 3-1
3.1 General 3-1
3.2 Configuring the CMD component 3-2
  3.2.1 Starting the configuration dialog 3-2
  3.2.2 General CMD parameters 3-3
  3.2.3 Advanced CMD parameters 3-5
  3.2.4 CMD assignment parameters 3-7
    3.2.4.1 Editing/deleting an entry 3-8
    3.2.4.2 Adding nodes 3-9
  3.2.5 CMD parameters for CTI Firewall 3-10
    3.2.5.1 Editing/deleting an entry 3-11
    3.2.5.2 Adding a TAPI 120 client 3-11
  3.2.6 CMD license parameters 3-12
  3.2.7 CMD version information 3-13
3.3 Configuring the TSP component 3-14
  3.3.1 Starting the configuration dialog 3-14
  3.3.2 General TSP parameters 3-15
    3.3.2.1 Importing/exporting general configuration parameters 3-16
  3.3.3 Advanced TSP parameters 3-17
  3.3.4 TSP ACD parameters 3-19
  3.3.5 TSP assignment parameters 3-21

3.3.6 TSP license parameters 3-23
  3.3.6.1 license-free applications 3-25
3.3.7 TSP line parameters 3-26
  3.3.7.1 Adding lines 3-27
  3.3.7.2 Editing/deleting lines 3-27
  3.3.7.3 Licensing lines 3-28
  3.3.7.4 Marking lines for ACD 3-28
3.3.8 TSP version information 3-28
3.4 Configuring the CSP component 3-29
3.4.1 Starting the configuration dialog 3-29
3.4.2 General CSP parameters 3-30
3.4.3 CSP mode parameters 3-31
3.4.4 Advanced CSP parameters 3-33
3.4.5 CSP assignment parameters 3-35
3.4.6 CSP licensing parameters 3-37
3.4.7 CSP version information 3-38
3.5 Configuring CCMC components 3-39
3.5.1 Starting the configuration dialog 3-39
3.5.2 Configuring database parameters 3-40
3.5.3 Configuring general CCMC parameters 3-41

List of abbreviations Y-1

Index Z-1

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HiPath 3000/5000 V4.0

HiPath TAPI 170 V2.0

Documentation

: V1.1.1
: 01/2003

1 Introduction

1.1 General

HiPath TAPI 170 V2.0 is a Telephony Service Provider that is fully compatible with the latest Microsoft Standard TAPI 2.2/3.0 and designed to run on a Windows NT or Windows 2000-based network server. The required telephone functionality is available on every client PC via the TAPI 2.2/3.0 client/server architecture thanks to the high-performance CSTA interface on the connected system.

> The server PC generally only runs on Windows 2000 when using *TAPI 170* in a HiPath 3000/5000 V4 network.

Communicating within the network

Once TAPI Service Provider has been installed and activated, TAPI functions are available on all TAPI 2.1 clients connected to this server. The TAPI-compliant software applications installed on the client PCs can use the TAPI functions in the same way as when using TAPI 1st Party Service Provider. Communication between server and client is completely transparent and is performed by Microsoft-defined interfaces.

Operational reliability

The TAPI 3rd Party Service Provider model with a central service provider requires a high level of operability. This is achieved via CSTA interface monitoring using a so-called heartbeat function and a permanently activated consistency check for fast recognition and release of blocked resources.

Documentation

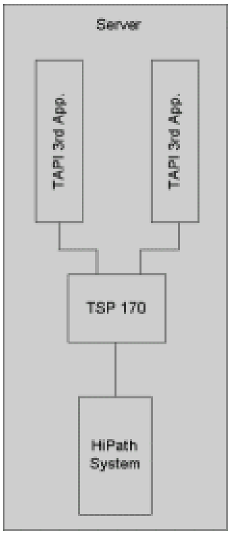
- Various abbreviations are used in this document to improve readability. An overview of all abbreviations can be found in the List of abbreviations.
- To improve readability, "telecommunications system(s)" has been abbreviated to "systems" in this document.
- The product name *HiPath TAPI 170 V2.0* has also been abbreviated to *TAPI 170* for the same reason.

1.2 Solutions and components

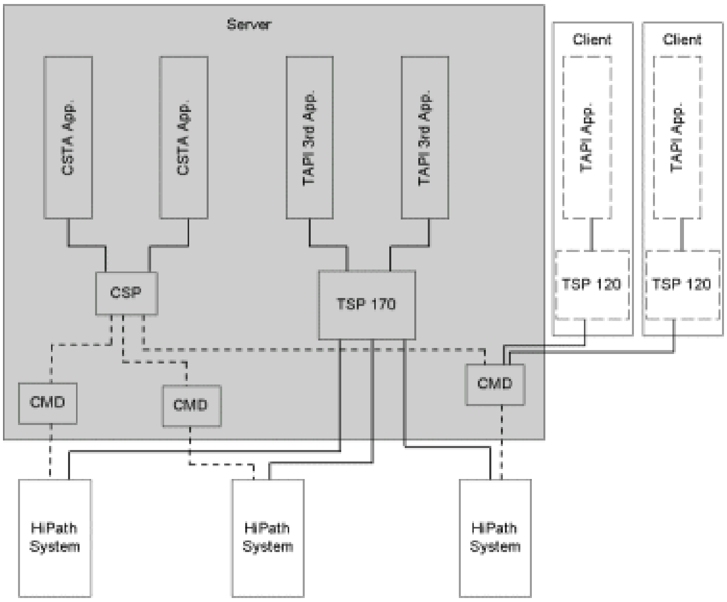
Solutions

As an individually marketed product, HiPath TAPI 170 V2.0 can be used as standalone software with a system/server or can be purchased as a component of a network solution, such as *HiPath AllServe / HiPath 5000 RSM* or *HiPath 3000/5000 V4* and used in conjunction with several systems/servers. Basic operation is identical. However, the scope of the relevant *HiPath TAPI 170 V2.0* components varies depending on the connection variant.

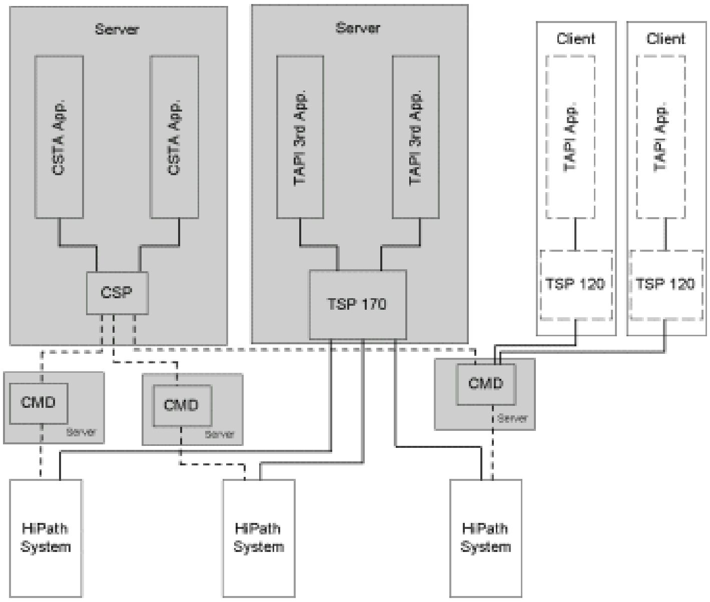
Configuring TAPI 170 as a standalone solution
Configuring TAPI 120/TAPI 170 in a HiPath AllServe / HiPath 5000 RSM network



Configuring *TAPI 170* in a HiPath 3000/5000 network (one server)



Configuring *TAPI 170* in a HiPath 3000/5000 V4 network (n servers)



CTI components

The following *HiPath TAPI 170 V2.0* CTI components are installed irrespective of the solution:

- **TSP** (TAPI Service Provider)
  Provides a TAPI interface corresponding to the standard Microsoft TAPI 170 2.2/3.0.
  This component is installed for all solutions.
- **CMD** (CSTA Message Dispatcher)
  Distributes the CSTA interface of the connected system network-wide.
  This component is installed for implementing TAPI 170 in a HiPath 3000/5000 V4 network.
- **CSP** (CSTA Service Provider)
  Provides a general CSTA3 interface for all connected systems, which can be used by the TAPI application.
  This component is installed for use in a HiPath 3000/5000 V4 network.
- **CCMC** (Central Configuration Manager Client)
  Synchronizes the data between the TAPI PC configuration database and the HiPath AllServe/HiPath 5000 RSM or HiPath 3000/5000 V4 server configuration database.
- **Dongle driver**
  Required for installing (updating) TAPI. The dongle driver is licensed via *TAPI 170 V1.0* dongle licensing. The dongle driver is not installed if *license* codes are used for licensing.

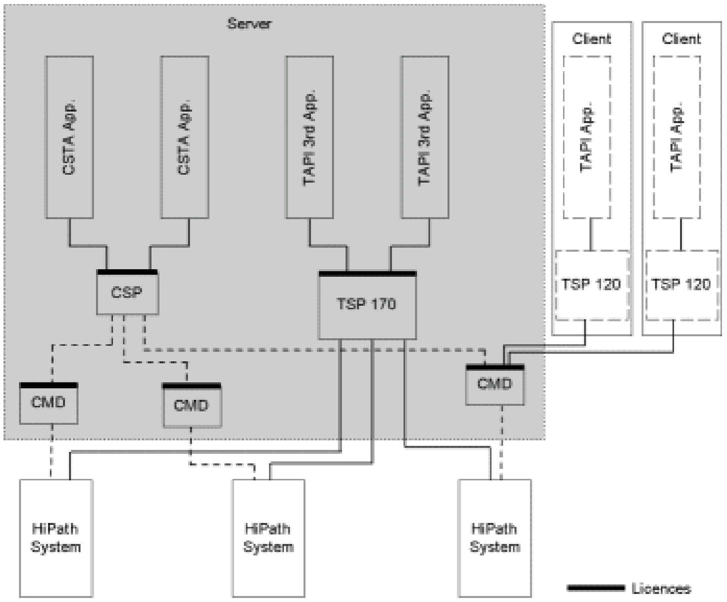
1.3 Licensing/copy protection

General

licenses are required for operating the CTI components installed. The license codes must be entered during configuration.

For reasons of compatibility, the use of dongles for licensing in the predecessors *TAPI 170 V1.0* or *HICOM CTI TAPI 170 3P V2.0/V2.1* is still supported.

Licensing model for implementing TAPI 170 in a HiPath 3000/5000 V4 network



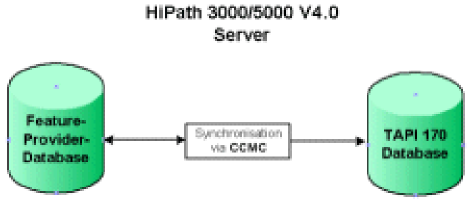
license monitoring of CTI applications and license-free access

- CMD
  - license-free access to the CSTA interface for the CSP
  - license-free access to the CSTA interface for TSP 170
  - license monitoring for CSTA interface access via TSP 120
- CSP
  - license-free access to the CSP CSTA interface for selected applications only (CSP and license-free applications must be installed on the same server)
- TSP
  - TAPI line licensing via TSP 170.
  - license-free access to the TAPI interface is only possible for selected applications. TSP component and license-free applications must be installed on the same server.

1.4 Data synchronization

Data synchronization (HiPath 3000/5000 V4)

Configuration data is synchronized via the CCMC components when using *TAPI 170* in a HiPath 3000/5000 V4 network.



- Configuration data in the Feature Provider database and the local HiPath 3000/5000 databases (mdb) is synchronized by the CCMC (Central Configuration Manager Client) on the relevant PCs.

1.5 Features

The following features are available depending on the system installed and the support provided for the TAPI applications used.

Features of TSP components

- Outgoing connection setup, incoming call acceptance, call cleardown
- Call status/caller ID display
- Call logging
- Call pickup (group), consultation hold, toggling, call transfer, conference
- Speed transfer, call redirect, call hold
- Tone dialing (DTMF) during call
- Call charge information
- Write to display
- Set/query hookswitch status
- Volume setting for handset, speaker and headset
- Lamp mode setting
- Dynamic line generation by the application
- Call center features:
  - Query/set/cancel message waiting indicator
  - Query/set/cancel call forwarding and do not disturb
  - Additional information on forwarded/redirected/ transferred calls
  - Playback of music on hold (MOH) and recorded announcements (RCA)
  - Trunk and UCD monitoring
  - Call status timer
  - Unique caller ID (domain-wide)
  - Call data exchange between TAPI applications (domain wide)

TSP features (TAPI extended services)

- Central call detail recording (CDR)
- Support for ACD proxy request handler
- Telephone data service (TDS)
- Heartbeat/loopback
- AMHOST

1.6 Hardware for system connection

TAPI 170 in *a HiPath 3000/5000* V4 network

TCP/IP is generally used for connecting CTI components to each other or to the system(s).

1.7 Requirements

Hardware requirements for server and client PCs

The hardware requirements specified by Microsoft for Windows NT 4.0/Windows 2000 PCs apply. For further information, please consult the Windows documentation.

Software requirements for the server PC

- Windows NT Server 4.0 Service Pack 4 or later (standalone)
- **or** Windows 2000 Server
- **or** Windows 2000 Advanced Server

> The server PC generally only runs on Windows 2000 Server when using *TAPI 170* for a *HiPath 3000/5000* V4 network.

Software requirements for client PCs

- Windows 98
- **or** Windows ME
- **or** Windows NT Server 4.0 Service Pack 4 or later
- **or** Windows NT Workstation Service Pack 4 or later
- **or** Windows 2000 Server
- **or** Windows 2000 Advanced Server
- **or** Windows 2000 Professional
- **or** Windows XP Professional

The Windows NT Service Pack can be downloaded from the Internet at the following URL:

> http://www.microsoft.com/downloads/

Configuration requirements on the system

During system configuration, the following flags (Assistant E, system settings) must be set:

- (Plus products) - Direction prefix sent via CSTA (for proper TSP / CSP operation)
- (Plus products) - CSTA-Appl. active (as remote service information that the application is run on the switch)
- (Plus products) - CSP Flag (for proper CSP operation)

Other requirements

- **Network protocol:** TCP/IP must be installed/configured.
- The server and client PCs must be members of a Windows NT/Windows 2000 domain.
- NETBIOS must be activated for implementation on Windows NT4 (for reading the MAC ID).
- The server PC must have a fixed IP address (also when using DHCP).

1.8 Installation medium and sequence

The following applies depending on the *TAPI 170* solution.

Installing *TAPI 170* for *HiPath 3000/5000* or *HiPath AllServe / HiPath 5000 RSM*

The installation files for *TAPI 170* are stored on the installation media for *HiPath AllServe* / HiPath 5000 RSM or *HiPath 3000/5000* V4 software installation.

The installation sequence for components is devised separately by the installation program. The components to be installed must be selected during installation. Once the components have been installed, the parameters required can still be configured before any further installations are performed. Components can, however, also be configured at a later stage.

Installing TAPI 170 (Standalone)

A CD with the following name is supplied

HiPath TAPI 170 V2.0
P30370-P271-A-*

as the installation medium. As the installation includes different components from various vendors, the following installation sequence must be observed.

Installation sequence

1. Installing Components
2. Configuring Components

During setup, the selected number and type of components are installed, i.e., unselected components are deinstalled, selected components are installed or updated.

2 Installing Components

2.1 General

Scope of installation

The components to be installed can be selected directly or indirectly when installing TAPI 170 components. The following components are available:

- TSP
- CSP
- CMD
- CCMC
- Dongle driver

(see also Solutions and components)

Installation and configuration

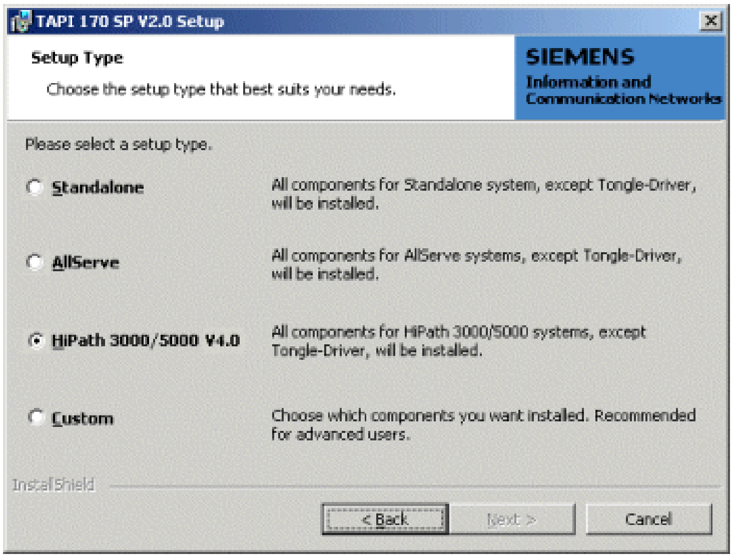
If several components are selected for installation, the individual installation routines and dialogs for entering the configuration parameters may be automatically started one after the other. In the present document, installation procedures are described in “Installing Components” and configurable parameters are described in “Configuring Components”.

2.2 Starting installation

Starting installation

1. *HiPath TAPI 170 V2.0* CTI components are automatically installed by the main installation routine during software installation.
2. The Welcome dialog is displayed. Click **Next** to confirm. The installation setup type must then be specified.

Display



Setup Type

Choose the setup type that best suits your needs.

Please select a setup type.

- ○ **Standalone** — All components for Standalone system, except Tongle-Driver, will be installed.
- ○ **AllServe** — All components for AllServe systems, except Tongle-Driver, will be installed.
- ● **HiPath 3000/5000 V4.0** — All components for HiPath 3000/5000 systems, except Tongle-Driver, will be installed.
- ○ **Custom** — Choose which components you want installed. Recommended for advanced users.

The relevant installation components are automatically assigned once the **Standalone**, **AllServe** and **HiPath 3000/5000 V4.0** setup types have been selected.

Components **Setup type**	**TSP**	**CMD**	**CSP**	**Dongle driver**	**CCMC**
Standalone	x	-	-	-	-
AllServe	x	-	-	-	x
HiPath 3000/5000 V4.0	x	x	x	-	x

The components to be installed can be selected manually in the customized setup dialog displayed once the **user-defined** setup type has been selected. This is useful, for example, if deviations from the standard scope of installation have to be taken into account for indivudual components.

> The dongle driver is only relevant for **TAPI 170 installations** that are licensed via the dongle. Mac IDs and *license* codes are used for licensing **initial installations of TAPI 170** version 2.0 or later. A dongle driver is not generally required.

> In an update installation, the installed components are detected automatically. After the initial installation is completed, the dialog for a custom installation can be opened at any time and independently of the update installation by clicking *Control Panel - Add/Remove Programs* (select the **HiPath Tapi 170 V2.0** entry). Please note, however, that a custom installation performed via the Control Panel will override the existing installation, i.e., all installed components that are not explicitly selected in the custom installation dialog will be uninstalled.

3. Click **Next** to confirm your selection.

   Installation of the selected components is started.

Standard scope of installation for TAPI 170

- **TAPI 170 Standalone:**
  - Installing the TSP component
- **TAPI 170 for AllServe/ HiPath 5000 RSM:**
  - Installing the TSP component
  - Installing the CCMC component
- **TAPI 170 for HiPath 3000/5000 V4:**
  - Installing the CMD component
  - Installing the TSP component
  - Installing the CSP component
  - Installing the CCMC component

Activating the ACD service

A message prompting activation of ACD support is displayed at the start of the *TAPI 170* installation routine (the exact time is dependent on the installation components selected). Click **YES** to confirm this message

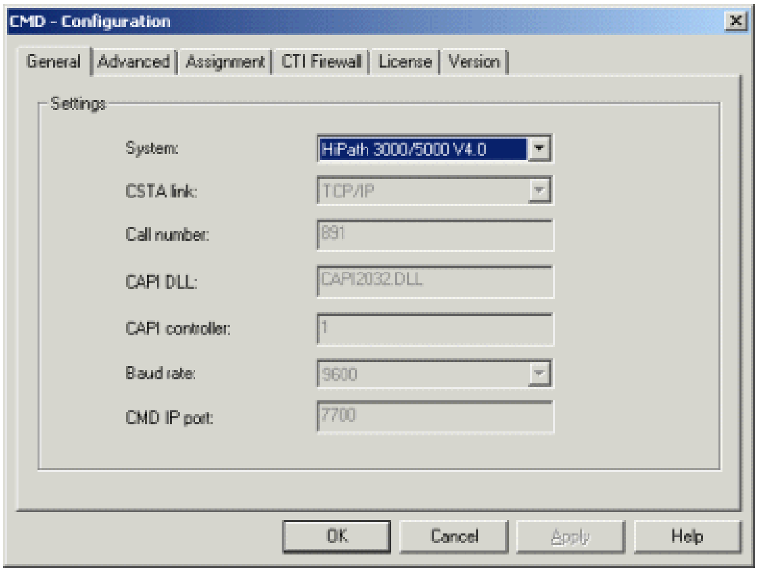
> The corresponding service for ACD support can be activated/deactivated at a later stage. Activate the Service Control Manager (Control Panel - Services) and select the required ACD 3Service setting for the service.

2.3 Installing the CMD component

The CMD component is included in the standard scope of installation for *TAPI 170* in the HiPath 3000/5000 V4 network.

1. A welcome dialog is not displayed when installing the CMD component. Progress is displayed in a window.
2. The CMD configuration dialog opens automatically following successful CMD installation. The required parameters can be entered in this dialog or configured at a later stage.

Display



System: HiPath 3000/5000 V4.0
CSTA link: TCP/IP
Call number: 891
CAPI DLL: CAPI2032.DLL
CAPI controller: 1
Baud rate: 9600
CMD IP port: 7700

The individual configuration parameters are described under Configuring the CMD component.

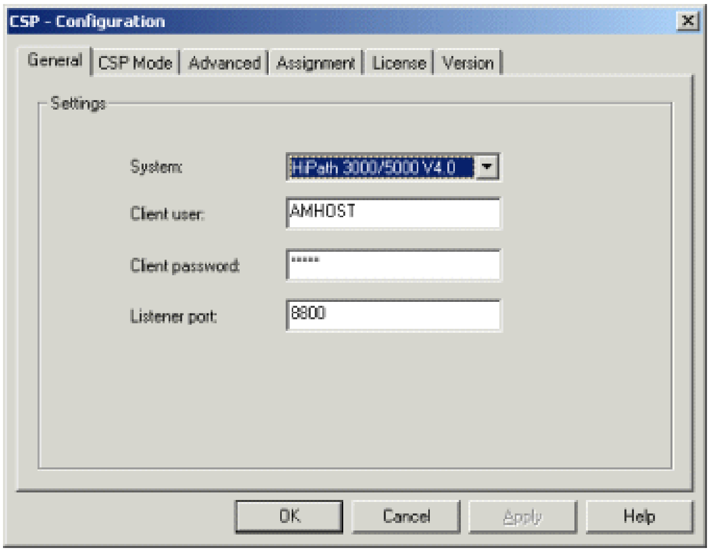
CMD installation is complete once you have exited the configuration dialog. Further components may now be installed automatically depending on the setup type selected.

2.4 Installing the CSP component

The CSP component is included in the standard scope of installation for *TAPI 170* in the HiPath 3000/5000 V4 network.

1. A welcome dialog is not displayed for installing the CSP component.
2. The CSP configuration dialog opens automatically following successful CSP installation. The required parameters can be entered in this dialog or configured at a later stage.

Display


CSP - Configuration

System: HiPath 3000/5000 V4.0
Client user: AMHOST
Client password: *****
Listener port: 8800

The individual configuration parameters are described under Configuring the CSP component.

CSP installation is complete once you have exited the configuration dialog. Further components may now be installed automatically depending on the setup type selected.

2.5 Installing the TSP component

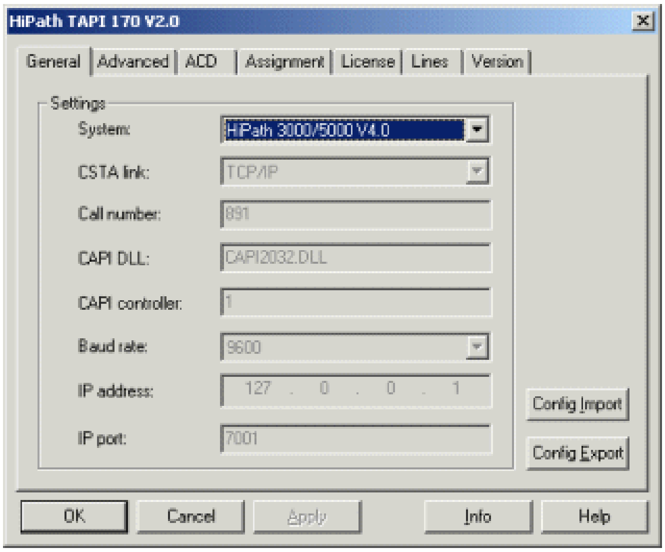
The central TSP component is included in the standard scope of installation for all *TAPI 170* solutions.

1. Click **Next** to confirm the TSP welcome dialog.

   TSP installation is then started and progress is displayed in a window.

2. If your PC has two network cards (and thus two IP addresses), you will be prompted to select the IP address to be used.
3. If the MAC address of the first HG1500 module in the network cannot be read during initial installation, a corresponding message is displayed. Confirm this message.
4. The TSP configuration dialog opens automatically following successful TSP installation. The required parameters can be entered in this dialog or configured at a later stage.

Configuration dialog - display



HiPath TAPI 170 V2.0

Settings
System: HiPath 3000/5000 V4.0
CSTA link: TCP/IP
Call number: 891
CAPI DLL: CAPI2032.DLL
CAPI controller: 1
Baud rate: 9600
IP address: 127 . 0 . 0 . 1
IP port: 7001

The individual configuration parameters are described in detail under Configuring the TSP component.

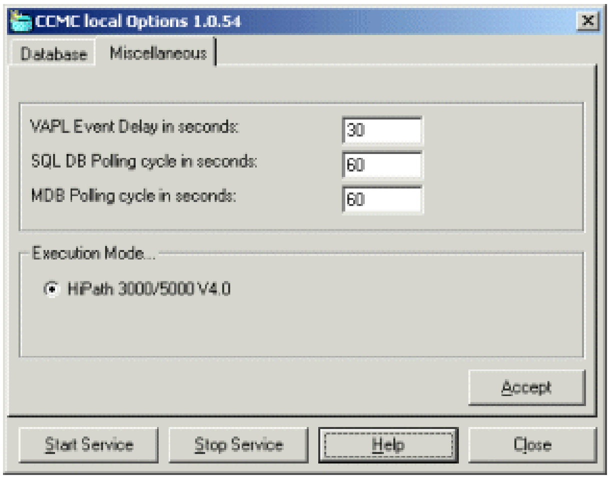
TSP installation is complete once you have exited the configuration dialog. Further components may now be installed automatically depending on the setup type selected.

2.6 Installing the CCMC component

The CCMC component is included in the standard scope of installation for *TAPI 170* in a *HiPath 3000/5000* V4 or *HiPath AllServe / HiPath 5000 RSM* network.

1. A Welcome dialog is not displayed for installing the CCMC component.
2. The CCMC options configuration dialog opens automatically following successful installation. The required parameters can be entered in this dialog or configured at a later stage.

Display



CCMC local Options 1.0.54

VAPL Event Delay in seconds: 30
SQL DB Polling cycle in seconds: 60
MDB Polling cycle in seconds: 60

Execution Mode...
● HiPath 3000/5000 V4.0

The individual configuration parameters are described under Configuring CCMC components.

CCMC installation is complete. Further components may now be installed automatically depending on the setup type selected.

2.7 Installing the dongle driver

Installation of the dongle driver is only necessary for reasons of compatibility if the TSP was licensed via dongle in a previous version (TAPI 170 V1.0 or HICOM CTI TAPI 3P V2.0/V2.1).

The dongle driver is automatically installed in a command prompt window without any further user commands. This window closes automatically following installation.

Further components may now be installed automatically depending on the setup type selected.

2.8 Ending installation

A completion dialog is displayed following installation of all selected components. Click **Finish** to end installation.

3 Configuring Components

3.1 General

Manual activation of configuration dialogs

The individual component parameters can be configured during installation or at a later stage.

Effectiveness of modified configuration parameters

Modified configuration of user parameters are immediately effective once the data has been saved in the configuration dialog (**Apply** or **OK** buttons).

It is necessary to re-start the TSP, for instance after modifying the connection type (CSTA link).

3.2 Configuring the CMD component

By default, the CMD component is only installed when TAPI 170 is used in a HiPath 3000/5000 V4 network (or when using TAPI 120 Standalone). This section is therefore not applicable when using TAPI 170 in the HiPath AllServe / HiPath 5000 RSM network.

3.2.1 Starting the configuration dialog

Activating the configuration dialog

To edit the CMD configuration parameters after installation, start the configuration dialog as follows:

1. Open the Windows Control Panel via *Start - Settings - Control Panel*. Activate the *CSTA Message Dispatcher* by double-clicking the associated icon.

- The CMD configuration dialog is then displayed.

2. Edit the following parameters as required:
    - General CMD parameters
    - Advanced CMD parameters
    - CMD assignment parameters
    - CMD parameters for CTI Firewall
    - CMD license parameters

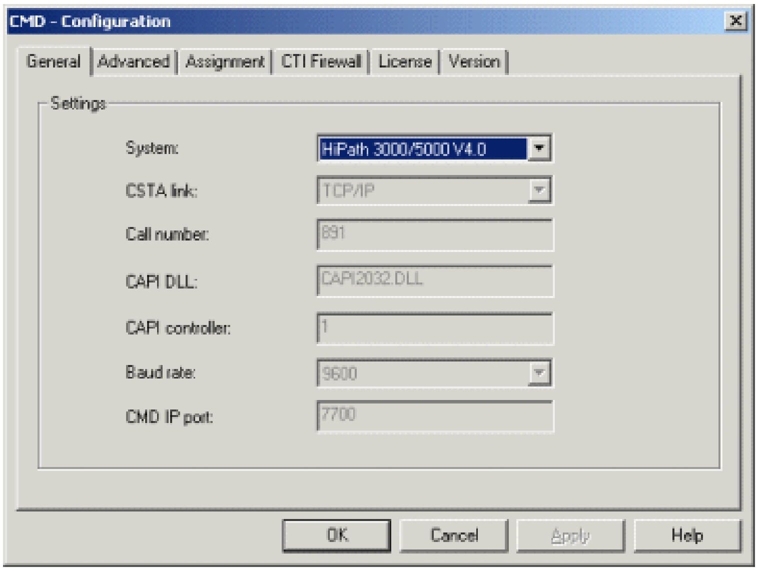
Up-to-date CMD version information can be found in the configuration dialog.

3.2.2 General CMD parameters

The type of system connected, the type of connection between the CMD and the system and the relevant connection parameters must be determined when configuring the general CMD parameters.

> Activate the **General** tab in the CMD configuration dialog.

Display



System: HiPath 3000/5000 V4.0
CSTA link: TCP/IP
Call number: 891
CAPI DLL: CAPI2032.DLL
CAPI controller: 1
Baud rate: 9600
CMD IP port: 7700

The following is a description of parameter meanings:

Parameter	Description
System	For selecting the connected system. The following systems can be selected: ● HiPath 3000 ● HiPath 3000/5000 V4 (default)
CSTA link	Connection type between CMD and the system. TCP/IP connection is predefined and cannot be changed.
Call number	Access number for the system's CSTA interface. This parameter is only relevant for connection via S0 and is not relevant to HiPath 3000/5000 V4.
CAPI-DLL	Name of the DLL file including the CAPI driver for the S0 card. This parameter is not relevant for HiPath 3000/5000 V4.
CAPI controller	S0 card controller number. This parameter is not relevant for HiPath 3000/5000 V4.

Parameter	Description
Baud rate	Interface transfer rate between the CMD and the system. This parameter is not relevant for HiPath 3000/5000 V4.
CMD IP port	Number of the CMD IP port that TAPI clients override.

> If the system is changed, a message may appear indicating that the licensing information may have been changed. If this occurs, the licensing information for the new system must be checked.

Saving parameters

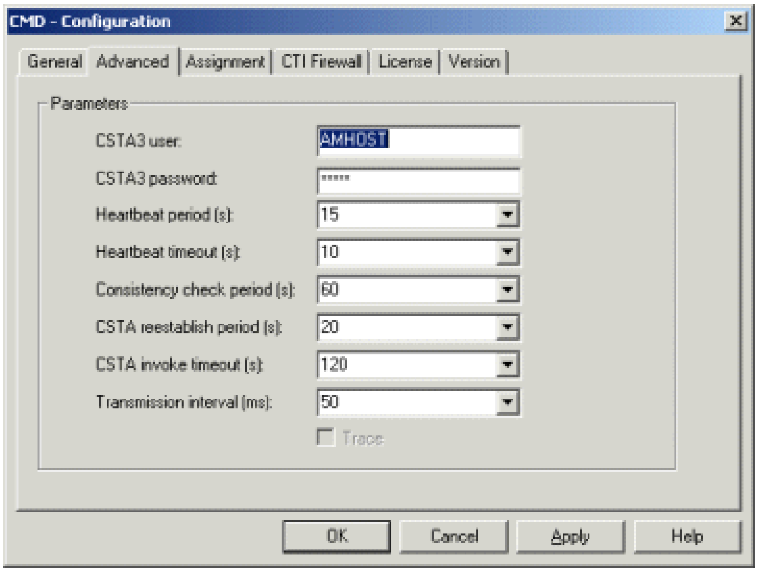
- To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).
- A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.2.3 Advanced CMD parameters

When configuring advanced CMD parameters, you are configuring parameters that are relevant to the connection between the connected system and the CMD. System-dependent parameters are defined on the system and should be specified here accordingly.

> Activate the **Advanced** tab in the CMD configuration dialog.

Display



CSTA3 user: AMHOST
CSTA3 password: *****
Heartbeat period (s): 15
Heartbeat timeout (s): 10
Consistency check period (s): 60
CSTA reestablish period (s): 20
CSTA invoke timeout (s): 120
Transmission interval (ms): 50
☐ Trace

Enter the following parameters:

Parameter	Description
CSTA3 user	CSTA3 user name of the system. To record a change of the system user name here as well, enter the new user name. Entering the name immediately opens an input dialog in which you can enter and confirm the new name, then return to the configuration dialog.
CSTA3 password	CSTA3 system password. To record a change of the system password here as well, enter the new password. Entering the password immediately opens an input dialog in which you can enter and confirm the new password, then return to the configuration dialog.

System login is not possible if the CSTA3 password entered here does not correspond to the system password.

Parameter	**Description**
Heartbeat period (s)	Time rhythm (seconds) for checking CSTA interface activity. The value „0“ disables the check. Default value. Should not be changed.
Heartbeat timeout (s)	Additional time in seconds until automatic re-installation in the case of CSTA interface failure. Default value. Should not be changed.
Consistency check period (s)	Time rhythm (in seconds) for cyclical plausibility checks. The value „0“ disables the check. Default value. Should not be changed.
CSTA reestablish period (s)	CMD waiting time (in seconds) until a connection is re-established following connection failure.
CSTA invoke timeout (s)	CMD timeout (in seconds)
Transmission interval (ms)	Waiting time between two CMD messages.
Trace	Option for activating trace messages (CSTA messages). You cannot make any entries in this field under HiPath 3000/5000 V4. You must define the trace option for each of the connected systems when configuring the assignment parameters.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

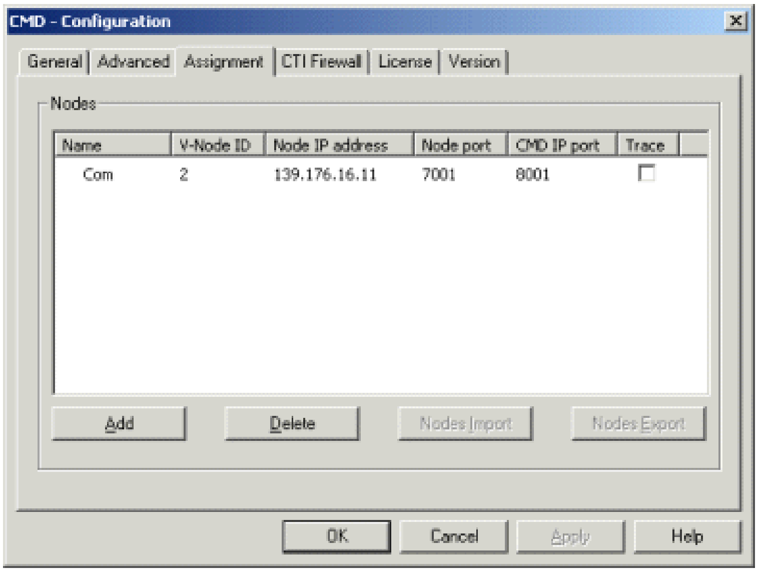
> A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.2.4 CMD assignment parameters

When configuring the assignment parameters, assign the systems connected to the CMD via the CMD Listener Ports on the **Assignment** tab.

> Activate the **Assignment** tab in the CMD configuration dialog.

Display



Name	V-Node ID	Node IP address	Node port	CMD IP port	Trace
Com	2	139.176.16.11	7001	8001	☐

A list of assigned CMDs/systems is displayed under the following entry:

Column/field	Description
Name	System description, entered during installation/configuration - usually the customer name.
V-Node ID	Node ID of the system connected to the CMD. The node ID is entered during system installation/configuration and is unique in the network.
Node IP address	Node IP address of the system connected to the CMD.
Node port	IP port number of the system, always set to 7001.
CMD IP port	CMD Listener Port port number to be configured for the system, e.g. 8001, 8002, etc.
Trace	Option for activating trace messages (CSTA messages) for the assigned system that can be interpreted using a separate standard tool.

Sorting the list displayed

The list can be sorted in ascending/descending order according to column content by clicking the relevant column heading, e.g. *Name*.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

> A confirmation message appears in both cases before the parameter values are saved in the registration database. Click **Yes** to confirm this message.

3.2.4.1 Editing/deleting an entry

Editing an entry

> To edit the parameters of a configured system double-click the corresponding value. The value can then be changed in the entry field displayed.

Deleting an entry

> Highlight the entry to be deleted using the mouse and click **Delete** or press the [Del] key. The entry is then deleted from the list.

3.2.4.2 Adding nodes

> Click **Add** in the **Assignment** tab.

> A list of all assigned nodes including the entries from the central database is displayed. Individually select the required nodes (multiple selection is possible using the keyboard/mouse). Click **Mark All** to highlight all list entries.

> Click **Add** to accept the selected entries followed by **Close** to exit the list window. The CMD configuration dialog re-appears.

A maximum of 64 systems/nodes can be configured.

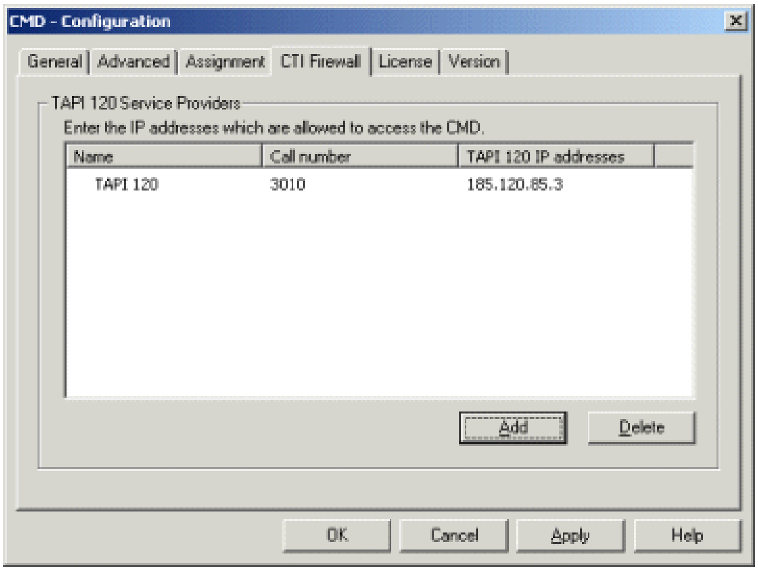
3.2.5 CMD parameters for CTI Firewall

Every TAPI 120 client that is connected to the CMD and permitted to seize a line, must be entered in the **CTI Firewall** tab to enable this access.

> Activate the **CTI Firewall** tab in the CMD configuration dialog.

You willl see a list of the TAPI 120 clients (IP addresses) already configured for access:

Display



Enter the IP addresses which are allowed to access the CMD.

Name	Call number	TAPI 120 IP addresses
TAPI 120	3010	185.120.85.3

Entries are displayed with the following information:

Column	Description
Name	Freely chosen name for the TAPI 120 client, enabling a single entry in the firewall to be identified.
Call number	Enter the call number of the TAPI 120 client.
TAPI 120 IP addresses	Enter the IP address of the TAPI 120 client.

Sorting the list displayed

The list can be sorted in ascending/descending order according to column content by clicking the relevant column heading, e.g. *Name*.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

> A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.2.5.1 Editing/deleting an entry

Editing an entry

> To edit the parameters of an entered TAPI 120 client, double-click the corresponding value. The value can then be changed in the entry field displayed.

Deleting an entry

> Highlight the entry to be deleted using the mouse and click **Delete** or press the Del key. The entry is then deleted from the list.

3.2.5.2 Adding a TAPI 120 client

1. Click **Add** in the **CTI Firewall** tab.
2. Enter the data of the TAPI 120 client in the input dialog and confirm with **OK**. You return to the **CTI Firewall** tab.

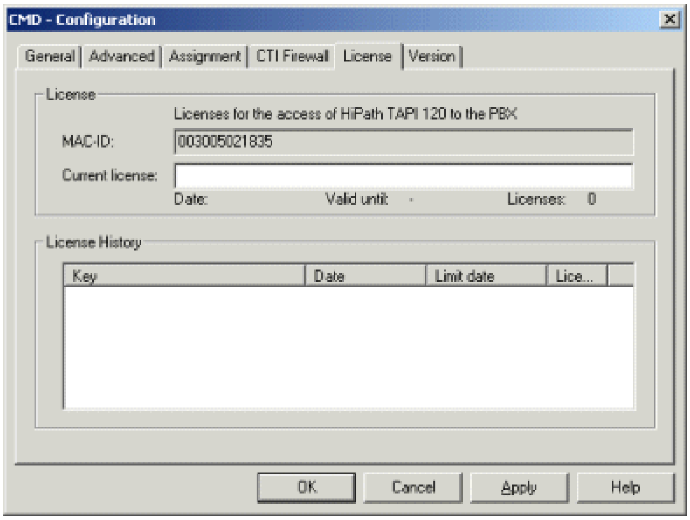
An unlimited number of clients can be entered on this tab. However, please note that the number of clients permitted to seize lines at any one time is limited by the licensing agreement (see also CMD license parameters).

3.2.6 CMD license parameters

Access by TAPI 120 clients via the CMD to the connected system is protected by a licensing procedure. You can obtain information on the current license as well as any license history that may exist. If necessary the Siemens engineer can download a new license code from the Siemens AG license server and enter it here.

> Activate the **license** tab in the CMD configuration dialog.

Display



Licenses for the access of HiPath TAPI 120 to the PBX
MAC-ID: 003005021835
Current license:
Date: Valid until: - Licenses: 0

The following is a description of parameter meanings:

Parameter	Description
MAC ID	MAC ID, used for encryption. This is the MAC ID of the first HG1500 module in the system network.
Current license	Current license code for licensing (in accordance with information in the central database). The Siemens engineer can download this key from the Siemens AG license server and enter a new license code. If a license is changed, the license key entered will be checked. Old keys are recorded in the license history. If the wrong license key is entered, no licenses are used.
Date Limit date Licenses	Details of license date, limit date and number of licenses with the current license code.

Parameter	Description
License History	Previous licenses are displayed here with the relevant information.

Saving parameters

- To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).
- A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.2.7 CMD version information

The version numbers of the components that are used and installed are listed in the **Version** tab.

3.3 Configuring the TSP component

For correct operation of the TSP, the following flags (Asssitant E) must be set in the switch:

- under Plus products: „Send routing prefix via CSTA“
- „CSTA application active“

3.3.1 Starting the configuration dialog

To edit TSP configuration parameters after installation, start the configuration dialog as follows:

Activating the configuration dialog (Windows 2000)

1. Open the Windows 2000 Control Panel via *Start - Settings - Control Panel.* Activate *Telephone and Modem Options* by double-clicking the associated icon.

> The *Phone and Modem Options dialog is displayed.*

2. Activate the *Advanced Options* tab, select the entry *HiPath TAPI 120/170 TAPI 2.0 SP* from the list of providers displayed and click **Configure.**

> The TSP configuration dialog appears.

Configuration parameters

The following parameters can be edited during TSP configuration:

- General TSP parameters
- Advanced TSP parameters
- TSP ACD parameters
- TSP assignment parameters
- TSP license parameters
- TSP line parameters

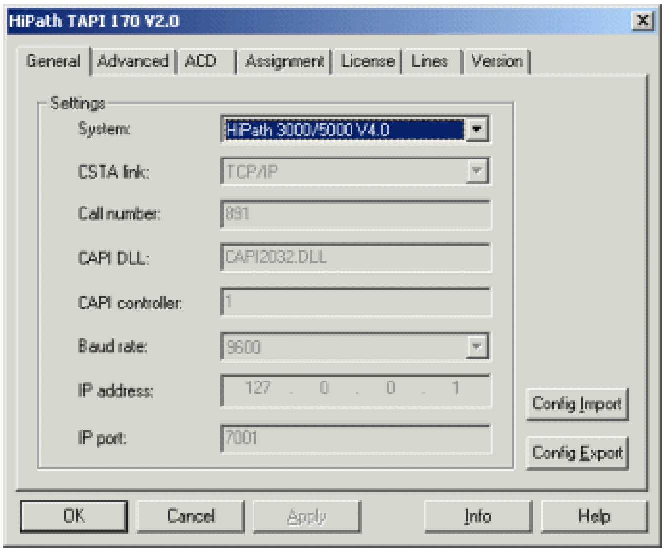
Up-to-date TSP version information can be found in the configuration dialog.

3.3.2 General TSP parameters

The type of system connected, the type of connection between the TSP and the system and the relevant connection parameters must be specified when configuring general TSP parameters.

> Activate the **General** tab in the configuration dialog.

Display



System: HiPath 3000/5000 V4.0
CSTA link: TCP/IP
Call number: 891
CAPI DLL: CAPI2032.DLL
CAPI controller: 1
Baud rate: 9600
IP address: 127 . 0 . 0 . 1
IP port: 7001

The following is a description of parameter meanings:

Parameter	Description
System	For selecting the connected system. The following baud rates can be selected: – HICOM 150E Office – HICOM 150E Office Rel. 3 – HiPath 3000 – HiPath AllServe – Hicom Integrated 2 – HiPath 3000 /5000 V4 (Default)
CSTA link	Connection via **TCP/IP** is predefined in the case of HiPath 3000/5000 V4 and cannot be changed.
Call number	Access number for the system's CSTA interface (for connection via S_0 only). This parameter is not relevant for HiPath 3000/5000 V4.
CAPI-DLL	Name of the DLL file including the CAPI driver for the S0 card, which is installed during S0 card installation. This parameter is not relevant for HiPath 3000/5000 V4.

Parameter	Description
CAPI controller	S0 card controller number. This parameter is not relevant for HiPath 3000/5000 V4.
Baud rate	Interface transfer rate between the CMD and the system (for connection via V.24). This parameter is not relevant for HiPath 3000/5000 V4.
IP address	System's HG1500 IP address display (cannot be changed).
IP port	Fixed port number for the system's CMD Listener Port, defined during CMD configuration, e.g. 8001, 8002, etc.

If the system is changed, a message may appear indicating that the licensing information may have been changed. If this occurs, the licensing information for the new system must be checked.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

> A confirmation message appears in both cases before the parameter values are saved in the registration database. Click **Yes** to confirm this message.

3.3.2.1 Importing/exporting general configuration parameters

Exporting

Activate the **Config Export** button to export the existing general parameters. The parameters are exported once the name of the export file has been determined. The configuration dialog re-appears.

Importing

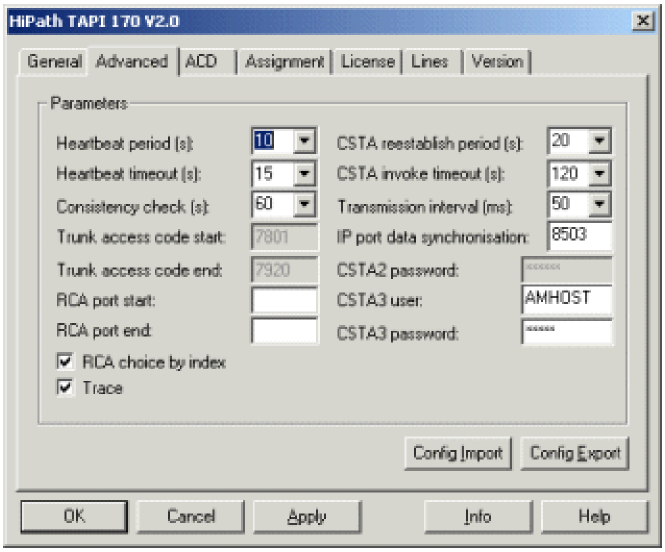
The general parameters can be read in from a corresponding import file. Click the **Config Import** button. The general configuration parameters are imported once the import file has been selected. The configuration dialog re-appears.

3.3.3 Advanced TSP parameters

When configuring advanced TSP parameters, you are configuring parameters that are relevant to the connection between the connected system and the TSP. System-dependent parameters are defined on the system and should be specified here accordingly.

> Activate the **Advanced** tab in the configuration dialog.

Display



Heartbeat period (s): 10
Heartbeat timeout (s): 15
Consistency check (s): 60
Trunk access code start: 7801
Trunk access code end: 7920
RCA port start:
RCA port end:
☑ RCA choice by index
☑ Trace
CSTA reestablish period (s): 20
CSTA invoke timeout (s): 120
Transmission interval (ms): 50
IP port data synchronisation: 8503
CSTA2 password: ******
CSTA3 user: AMHOST
CSTA3 password: *****

> Enter the following parameters:

Parameter	Description
Heartbeat period (s)	Time rhythm (seconds) for checking CSTA interface activity. The value „0“ disables the check. Default value. Should not be changed.
Heartbeat timeout (s)	Additional time in seconds until automatic re-installation in the case of CSTA interface failure. Default value. Should not be changed.
Consistency check period (s)	Time rhythm (in seconds) for cyclical plausibility checks. The value „0“ disables the check. Default value. Should not be changed.
Trunk access code start Trunk access code end	Range of system station numbers for trunk access codes. Current system values are obtained from the central database and displayed. These values cannot be changed.
RCA port start RCA port end	First or last port for announcement devices in accordance with configuration on the system.

Parameter	Description
RCA choice by index	This option must be activated for HiPath 3000 V1 Service Maintenance Release H or later to enable use of the ACD announcement function.
Trace	Option for activating trace messages (CSTA messages) that can be interpreted using separate standard debugging tools.
CSTA reestablish period (s)	TSP waiting time (in seconds) until a connection is re-established following connection failure.
CSTA invoke timeout (s)	TSP timeout (in seconds)
Transmission interval (ms)	TSP waiting time between two messages.
IP port data synchronization	IP port for recording the central database synchronization pulse.
CSTA2 password	CSTA2 system password. This field is only applicable to standalone use of the Hicom 150E Office and Hicom Integrated 2 systems.
CSTA3 user	CSTA3 user name. This field is only applicable to standalone use of the Hicom 150E Office Rel. 3 and HiPath 3000 systems.
CSTA3 password	CSTA3 password of the system. This field is only applicable to standalone use of the Hicom 150E Office Rel. 3 and HiPath 3000 systems.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

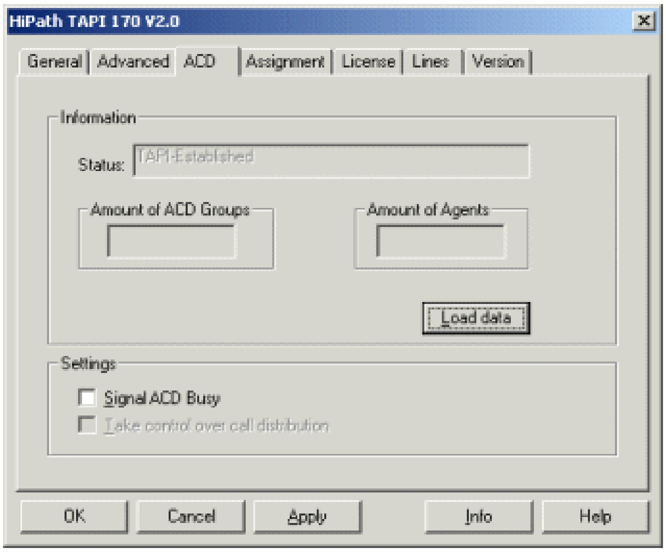
> A confirmation message appears in both cases before the parameter values are saved in the registration database. Click **Yes** to confirm this message.

3.3.4 TSP ACD parameters

In the **ACD** tab you can specify parameters relevant to ACD and obtain information on ACD functionality, or you can activate the ACD service in order to obtain this information.

> Activate the **ACD** tab in the configuration dialog.

Display



Status: TAPI-Established

☐ Signal ACD Busy

☐ Take control over call distribution

> The current ACD **status** and the number of ACD **groups** and **agents** (as configured in the TSP line parameters, see TSP line parameters) are displayed in the output field if the ACD service is activated. If no information is displayed, click the **Load data** button. This starts the ACD service and gathers and displays the information.

> Using the **ACD Busy** signal option, you can determine whether or not the "Agent busy" status should be relayed to the TAPI ACD application.

This option must not be activated for use with HiPath Pro Center Office (HPCO), as HPCO cannot edit these messages.

> A setting for the **Take control over call distribution** option is displayed for the sake of compatibility, but cannot be modified. Where this option is enabled, call distribution for the connected TAPI applications is activated.

If you want to use this feature, please contact the Siemens product management.

> This option must not be activated for applications that administer call distribution (such as HiPath Pro Center Office HPCO).

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

> A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

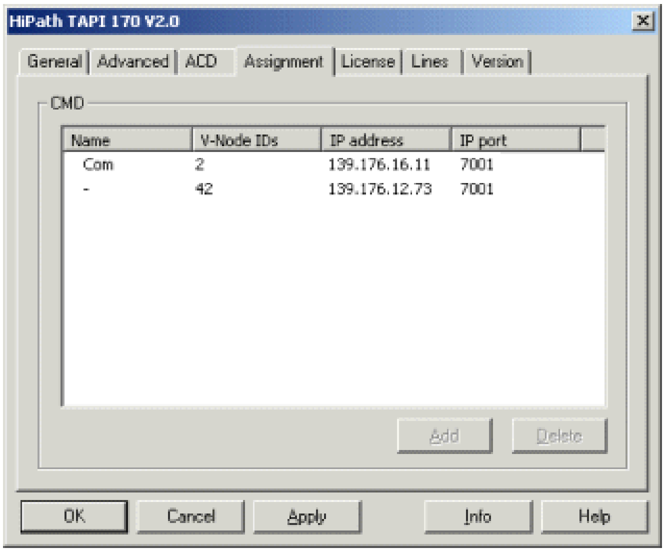
3.3.5 TSP assignment parameters

The assignment parameters on this tab are not relevant when using HiPath TAPI 170 as a standalone solution. In this case the tab cannot be activated.

Configure the node parameters for connecting the TSP to the relevant systems (nodes) via CMD in the **Assignment** tab.

> Activate the **Assignment** tab.

Display



Name	V-Node IDs	IP address	IP port
Com	2	139.176.16.11	7001
-	42	139.176.12.73	7001

A list of all configured nodes (systems) is displayed giving details of:

Column/field	Description
Name	System description
V-Node IDs	Node ID of a system to which TSP administers lines.
IP address	IP address of the CMD network connected to the system.
IP port	CMD Listener Port port number for the system, e.g. 8001, 8002, etc.

It is not possible to add to, edit or delete the entries listed.

Sorting the list displayed

The list of V-Node IDs can be sorted in ascending/descending order according to column content by clicking the relevant column header, e.g., **Name**.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

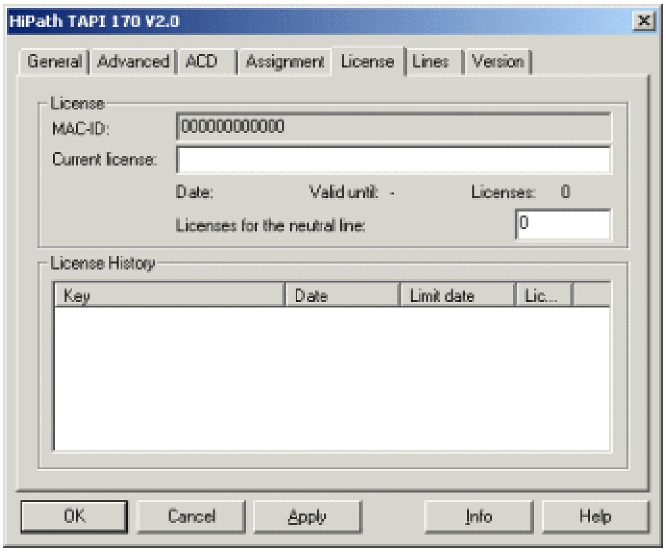
> A confirmation message appears in both cases before the parameter values are saved in the registration database. Click **Yes** to confirm this message.

3.3.6 TSP license parameters

This configuration dialog displays information on current TSP licensing and is applicable to applications that are subject to license. There are also license-free applications (see the list in Section license-free applications).

> Activate the **license** tab in the configuration dialog.

Display



MAC-ID: 000000000000
Current license:
Date: Valid until: - Licenses: 0
Licenses for the neutral line: 0

The following is a description of parameter meanings:

Parameter	Description
MAC ID	MAC ID that is used for encryption. This is the MAC ID of the first HG1500 module in the system network.
Current license	Display of current license codes for licensing. The Siemens engineer can download this key from the Siemens AG license server and enter a new license code. The key entered is checked when a license is changed. Older licenses are recorded in the license history. If the wrong license key is entered, a message appears. The number of licenses is 0.
Date Limit date Licenses	license date, limit date and number of licenses with the current license code.
Licenses for the neutral line	Maximum number of licenses available with the neutral line. The neutral line enables applications to seize lines at runtime.

Parameter	Description
License History	Previous licenses are displayed here with the relevant information.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

> A confirmation message appears in both cases before the parameter values are saved in the registration database. Click **Yes** to confirm this message.

3.3.6.1 license-free applications

The following applications can be used without a license:

- Personal Call Manager
- GetAccount
- HiPath Pro Center Office
- Presence Manager
- HiPath Pro Center Compact

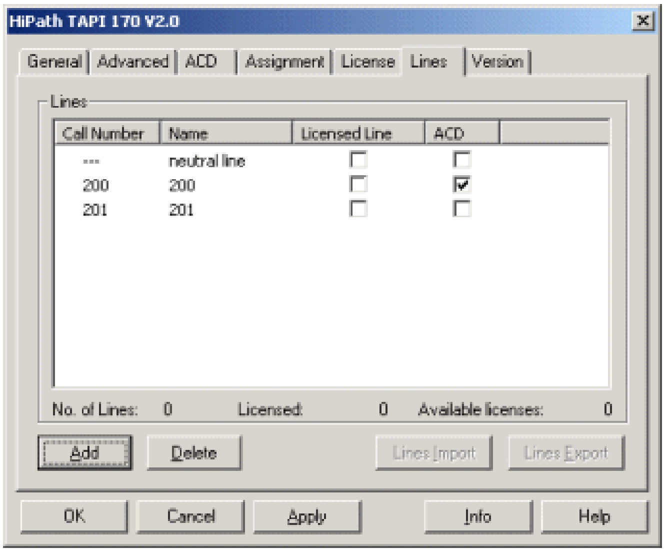
3.3.7 TSP line parameters

The different TSP lines/users must be determined during line parameter configuration.

> Lines can be both agents/users and ACD groups or trunks.

> Activate the **Lines** tab in the configuration dialog.

Display



Call Number	Name	Licensed Line	ACD
---	neutral line	☐	☐
200	200	☐	☑
201	201	☐	☐

No. of Lines: 0 Licensed: 0 Available licenses: 0

Configured lines (TSP users) are listed in the dialog displayed under **Call Number**, **Name**, **licensed Line** ID and **ACD** ID. The list of configured lines shows the total number of lines, the total number of licensed lines as well as the number of available licenses.

The **Neutral Line** serves as a reproduction tool for applications and adds lines while the program is active. The settings for ACD marking are also used for the reproduced lines. The settings for licensing the neutral line are not performed here, but in the **license** tab (see also TSP license parameters). Any attempt to edit the licensing options for the neutral line will produce an alert message.

Sorting the list displayed

The list of lines can be sorted in ascending/descending order according to column content by clicking on the relevant column heading, e.g. **Call Number**.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

> A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.3.7.1 Adding lines

1. Click **Add** in the **Lines** tab.
2. A list of all call numbers configured for the connected system is displayed. Individually select the required entries (multiple selection is possible using the keyboard/mouse). Click **Select All** to highlight all list entries.
3. Click **Add** to accept the selected entries followed by **Close** to exit the list window. The TSP configuration dialog re-appears.

ⓘ Each additional line uses resources on the HiPath server. For this reason, lines that are not required by the application should not be added.

3.3.7.2 Editing/deleting lines

Editing lines

To change the name, double-click on the name entry. The value can then be changed in the entry field displayed. This change is effective on the connected system as well.

Deleting lines

1. Click the entry to be changed.
2. The click **Delete** or press the [Del] key. The entry is deleted.

3.3.7.3 Licensing lines

If lines from a non-HiPath application are used, they must be licensed.

- For licensing, select the license option for the relevant line under **licensed Line** (checkmark). If there are no more licenses available, a corresponding message appears when selecting the option.
- Delete the checkmark under **licensed Line** to cancel a line license.

The settings for licensing the neutral line are not performed here, but in the **license** tab (see also TSP license parameters). Any attempt to edit the licensing options for the neutral line will produce an alert message.

licensed lines can then also be opened by other applications (including third-party applications) which are not featured in the license-free applications list.

3.3.7.4 Marking lines for ACD

> The agent function in the Call Center requires that the appropriate lines are marked for ACD, i.e., the option described must be selected.

- To mark a line as an ACD agent, select the ACD option for the relevant line under **ACD** (checkmark).
- To remove the ACD agent marking, delete the checkmark under **ACD**.

Lines that are marked with a grey checkmark in the ACD option are automatically marked as ACD agents, e.g. if a station registers with an ACD group for the first time.

> ACD ID uses resources on the server. For this reason, ACD marking for the relevant lines should only be activated if requested by the application.

The number of ACD groups or agents (excluding trunks) marked for ACD is also displayed in the ACD tab. (See TSP ACD parameters.)

3.3.8 TSP version information

The version numbers of the components that are used and installed are listed in the **Version** tab.

3.4 Configuring the CSP component

The CSP component is only installed if the TAPI 170 is being used in a HiPath 3000/ 5000 V4 network. This component is not installed if the TAPI 170 is being used in a HiPath AllServe / HiPath 5000 RSM network or as a standalone solution.

3.4.1 Starting the configuration dialog

Activating the configuration dialog (Windows 2000)

1. Open the Windows 2000 Control Panel via *Start - Settings - Control Panel.*Activate the *CSTA Service Provider* by double-clicking the icon.

> The CSP configuration dialog appears.

Configuration parameters

The following parameters can be edited during CSP configuration:

- General CSP parameters
- CSP mode parameters
- Advanced CSP parameters
- CSP assignment parameters
- CSP licensing parameters

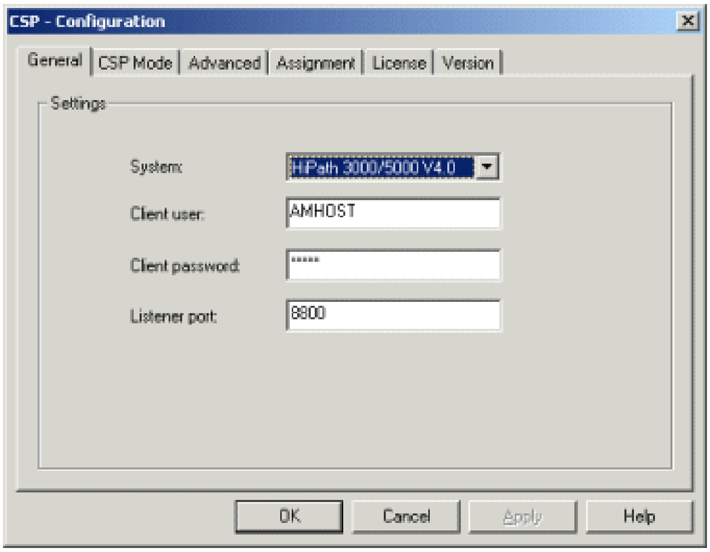
Up-to-date CSP version information can be found in the configuration dialog.

3.4.2 General CSP parameters

The type of system connected and the relevant access information must be determined when configuring the general CSP parameters.

> Activate the **General** tab in the CSP configuration dialog.

Display



System: HiPath 3000/5000 V4.0
Client user: AMHOST
Client password: *****
Listener port: 8800

The following is a description of parameter meanings:

Parameter	Description
System	For selecting the connected system. Only HiPath 3000/ 5000 V4 is currently available for selection.
Client user	CSTA user name of the client user on the system (for logging in the application connected to the CSP).
Client password	CSTA password of the client user on the system (for logging in the application connected to the CSP). The password dialog opens automatically following input.
Listener port	CSP listener port

Saving parameters

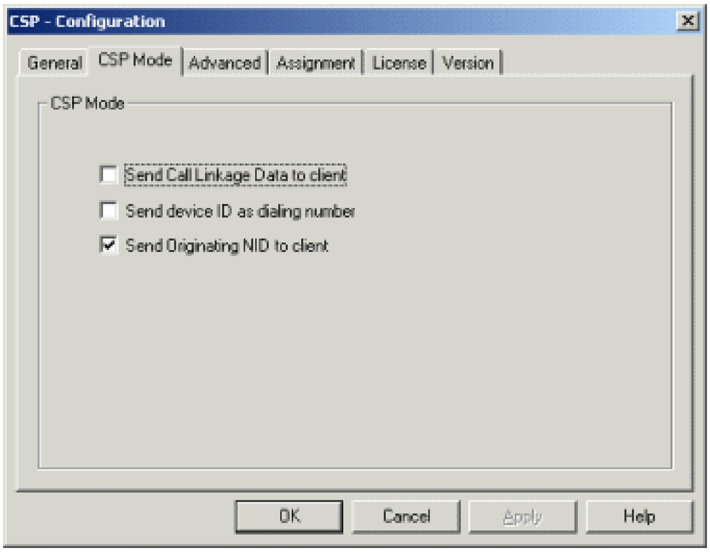
- To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).
- A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.4.3 CSP mode parameters

CSP mode settings can determine the content and scope of information exchanged between the CSP and the connected application in the underlying CSTA protocol. The application connected to the CSP determines the settings required for this.

To configure the mode parameters, open the **CSP Mode** tab in the CSP.

Display



☐ Send Call Linkage Data to client
☐ Send device ID as dialing number
☑ Send Originating NID to client

The following options and information in the underlying protocol can be activated or deactivated:

- **Send Call Linkage Data to client**
  If this option is activated, a data record with system-internal information is sent with each call.
- **Send device ID as dialing number**
  If this option is activated, the device ID of the call is sent as a "dialing number". If deactivated, the device ID is sent as "implicit Private" for internal call numbers and "implicit Public" for external call numbers.
- **Send Originating NID to client**
  If this option is activated, the originating NID is sent for evaluation via TSP.

All options must correspond to the connected application.

Saving parameters

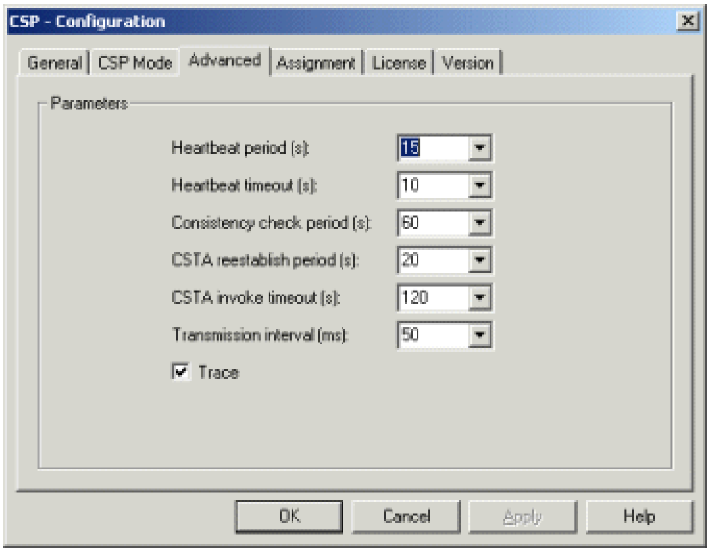
- To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).
- A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.4.4 Advanced CSP parameters

When configuring advanced CSP parameters, you are configuring parameters that are relevant to the connection between the connected system and the CSP. System-dependent parameters are defined on the system and should be specified here accordingly.

> Activate the **Advanced** tab in the CSP configuration dialog.

Display



Heartbeat period [s]: 15
Heartbeat timeout [s]: 10
Consistency check period [s]: 60
CSTA reestablish period [s]: 20
CSTA invoke timeout [s]: 120
Transmission interval [ms]: 50
☑ Trace

The following is a description of parameter meanings:

Parameter	Description
Heartbeat period (s)	Time rhythm (seconds) for checking CSTA interface activity. The value „0“ disables the check. Default value. Should not be changed.
Heartbeat timeout (s)	Additional time in seconds until automatic re-installation in the case of CSTA interface failure. Default value. Should not be changed.
Consistency check period (s)	Time rhythm (in seconds) for cyclical plausibility checks. The value „0“ disables the check. Default value. Should not be changed.
CSTA reestablish period (s)	CSP waiting time (in seconds) until a connection is re-established following connection failure.
CSTA invoke timeout (s)	CSP timeout (in seconds)
Transmission interval (ms)	CSP waiting time between two messages

Parameter	Description
Trace	Option for activating trace messages (CSTA messages) that can be interpreted using separate standard debugging tools.

Saving parameters

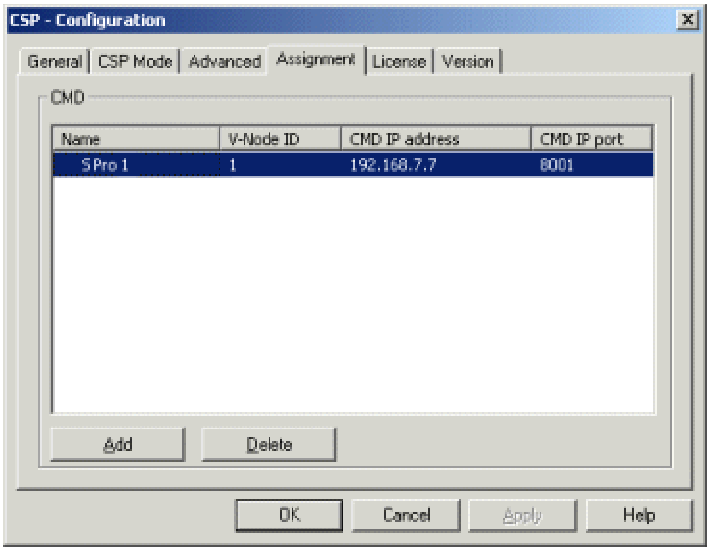
- To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).
- A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.4.5 CSP assignment parameters

The CSP still requires information on which CMDs the assignment (or connection) applies to.

> To set the assignment parameters, open the **Assignment** tab in the CSP configuration dialog.

Display



Name	V-Node ID	CMD IP address	CMD IP port
SPro 1	1	192.168.7.7	8001

A list of configured assignments is displayed under the following entry:

Column/field	Description
Name	Name of the assigned CSP
V-Node ID	Node ID of the system connected to the CMD
CMD IP address	IP address of the connected CMD in the network
CMD IP port	System port number for the connected CMD Listener Port, usually 8001, 8002 etc.

Adding entries (assignments):

1. Click **Add** in the **Assignment** tab.
2. A list of all CMDs configured in the network is displayed. Select the CMD to be made available for the CSP. Multiple selection is possible using the keyboard/mouse. To highlight all list entries click **Select All.**
3. Click **Add** to accept the selected entries followed by **Close** to exit the list window. The CSP configuration dialog re-appears.

Removing assignments

Highlight the assignment to be deleted using the mouse and click **Remove** or press the Del key. The entry is deleted from the list and the assignment is cancelled.

Sorting the list displayed

The list of CMD assignments can be sorted in ascending/descending order according to column content by clicking the relevant column heading, e.g. *Name*.

Saving parameters

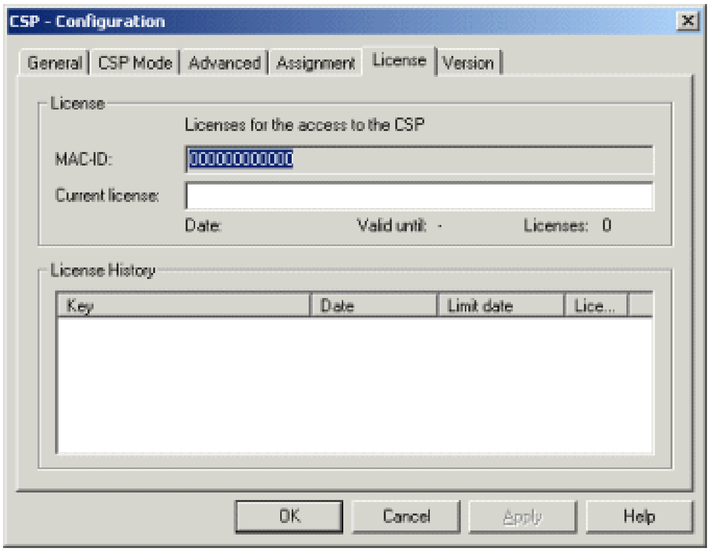
- To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).
- A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.4.6 CSP licensing parameters

This configuration dialog displays information on current CSP licensing and is applicable to applications that are subject to license.

> Activate the **license** tab in the configuration dialog.

Display



License

Licenses for the access to the CSP

MAC-ID: 000000000000

Current license:

Date: Valid until: - Licenses: 0

License History

Key	Date	Limit date	Lice...

The following is a description of parameter meanings:

Parameter	Description
MAC ID	MAC ID, used for encryption. This is the MAC ID of the first HG1500 module in the system network.
Current license	Display of current license codes for licensing. The present date, validity and number of current licenses is displayed beneath it. The Siemens engineer can download this key from the Siemens AG license server and enter a new license code here. The key entered is checked when a license is changed. Older licenses are recorded in the license history. If the wrong license key is entered, a message appears and the license key is rejected.
License History	Previous licenses are displayed here with the relevant information.

Saving parameters

> To save entries, click **Apply** (to configure parameters in other tabs for example) or **OK** (to exit the configuration dialog and save changes).

> A confirmation message appears in both cases before the parameter values are saved in the database. Click **Yes** to confirm this message.

3.4.7 CSP version information

The version numbers of the components that are used and installed are listed in the **Version** tab.

3.5 Configuring CCMC components

> The CCMC component is relevant when TAPI 170 is used in a HiPath 3000/5000 V4 network or in a HiPath AllServe / HiPath 5000 RSM network. This component is not installed when TAPI 170 is used as a standalone solution.

CCMC (Central Configuration Manager Client) synchronizes configuration data between the central and the local configuration databases in the *HiPath 3000/5000 V4* or *HiPath AllServe / HiPath 5000 RSM* network.

3.5.1 Starting the configuration dialog

To edit CCMC configuration parameters after installation, start the configuration dialog as follows:

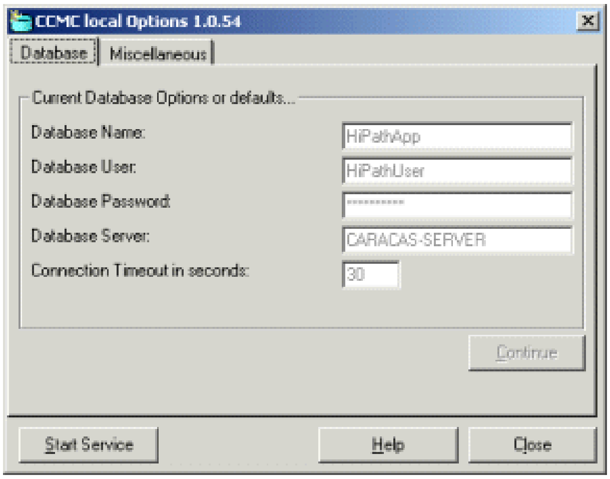
> Open the Windows 2000 Control Panel via *Start - Settings - Control Panel.* Activate the *CCM Local Options* by double-clicking the associated icon.

> The **CCMC Local Options** dialog appears.

3.5.2 Configuring database parameters

The entries in the **Database** tab are not currently relevant to HiPath 3000/5000 V4 or HiPath AllServe / HiPath 5000 RSM, and therefore cannot be edited.

Display



Current Database Options or defaults...

Database Name: HiPathApp
Database User: HiPathUser
Database Password: **********
Database Server: CARACAS-SERVER
Connection Timeout in seconds: 30

The following is a description of parameter meanings:

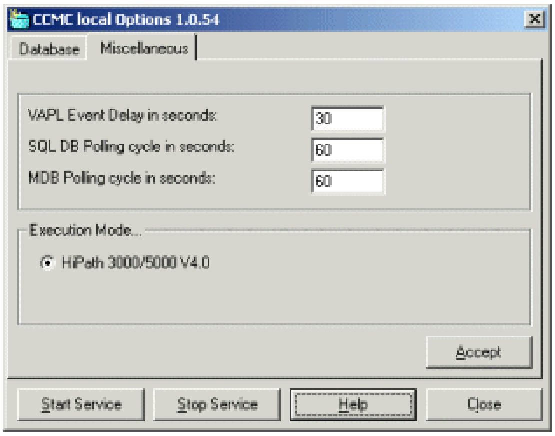
Parameter	Description
Database Name	Name of the SQL server database.
Database User	User name for the SQL server database.
Database Password	User password for the SQL server database
Database Server	Server name on which the SQL database is installed.
Connection Timeout in seconds	Maximum time for connection setup to the SQL database.

1. Start CCMC data synchronization by clicking **Start Service**.
2. Use the **Next** button to check whether you have access to the database with the values configured.

3.5.3 Configuring general CCMC parameters

> Open the **Miscellaneous** tab and edit the following parameters:

Display



CCMC local Options 1.0.54

VAPL Event Delay in seconds: 30

SQL DB Polling cycle in seconds: 60

MDB Polling cycle in seconds: 60

Execution Mode...

● HiPath 3000/5000 V4.0

The following is a description of parameter meanings:

Parameter	Description
VAPL Event Delay in seconds	VAPL events occur when changes are made to configurations. This may result in a high volume of events for a single system (node) that always apply to the same data records. The system waits until no further events occur before processing further. The waiting time for this is set here.
SQL DB Polling cycle in seconds	The time after which the SQL database is checked following updates.
MDB Polling cycle in seconds	Time interval at which the CCMC transfers modifications from the local databases (mdb) to the “central” database (server PC).
Execution mode	Mode in which the components should operate: ● **HiPath 3000/5000 V4.0** No access to the central SQL server database, VAPL events are edited.

1. Start CCMC data synchronization by clicking **Start service**.
2. Press the **Accept** button to save your settings.

List of abbreviations

This list contains the abbreviations used in this manual.

Abbreviation	**Definition**
CCMC	Central Configuration Manager Client
CMD	CSTA Message Dispatcher
CSP	CSTA Service Provider
CSTA	Computer Supported Telephony Application
CTI	Computer Telephony Integration
MEB	Media Extension Bridge
MGC	Media Gatekeeper Client
TAPI	Telephony Application Programming Interface
TSP	TAPI Service Provider

Index

A

ACD parameters 3-19

C

CCMC 1-5
CCMC configuration 3-39
CCMC Database Parameters 3-40
CCMC General Parameters 3-41
CMD 1-5
CMD advanced parameters 3-5
CMD assignment parameters 3-7
CMD General Parameters 3-3
CMD installation 2-4
CMD license parameters 3-12
CMD parameters for CTI firewall 3-10
CMD version information 3-13
Configuration requirements 1-10
connection 1-3
connection variant 1-3
Copy protection 1-6
CSP 1-5
CSP Advanced Parameters 3-33
CSP assignment parameters 3-35
CSP configuration 3-29
CSP General Parameters 3-30
CSP licensing parameters 3-37
CSP mode parameters 3-31
CSP version information 3-38
CTI components 1-5

D

Data synchronization 1-7
Dongle driver 1-5

F

Features 1-8

I

Installation sequence 1-12

L

Licence code 1-6
license 1-6
License monitoring 1-6
license-free access 1-6
License-free applications 3-25
Licensing 1-6

T

TSP 1-5
TSP ACD parameters 3-19
TSP Advanced Parameters 3-17
TSP assignment parameters 3-21
TSP configuration 3-14
TSP General Parameters 3-15
TSP license parameters 3-23
TSP line parameters 3-26
TSP parameters 3-17
TSP version information 3-28